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Same formal pattern, different contact situation, different propagation

Evidential vs. deontic NCI constructions in Dutch
(contrasted with English)

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This paper is about the Dutch equivalent of the pattern illustrated by the English sentence *John is believed to be in Leipzig*. This is a specific type of what is sometimes called “subject-to-subject” raising. Another name for it is “nominative and infinitive”, or NCI in short, the abbreviation of the Latin term “nominativus cum infinitivo”.

Believe-type “raising to subject”, or NCI, patterns

1. In this book authorities are said to be limited also by the kinds of reasons on which they may or may not rely in making decisions and issuing directives, and by the kind of reasons their decisions can pre-empt.
2. AMERICAN ring doughnuts from The Delicious Donut Co are made from a flour which is said to give them a light, fluffy, and non-greasy consistency.
3. A market can be said to be a place where buyers and sellers meet to make an exchange of goods (or services).

We have argued in previous work that NCI patterns can instantiate no less than five different constructions, i.e. they can have five different functions, both in English and in Dutch (Noël & Coleman 2010).

We call the NCI in (1) a “plain passive” (even though no active “equivalent”, i.e. an ACI, with *say* is possible in Present-day English) because the NCI is used here for the same information packaging reasons that motivate the use of the passive generally (compare: *The authors of this book say that authorities...*). The meaning of the matrix verb (*said*) is very much part of the propositional meaning of the sentence, which refers to a spatiotemporally locatable utterance act: a statement made “in this book”. In this example the meaning of *are said to* is very much “on-stage” (cf. Langacker 1987): if you remove it, the sentence becomes nonsensical, or at the very least conveys an altogether different meaning (*?In this book authorities are limited also by...*).

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In (2) and (3), on the other hand, the meaning of the *be said to* pattern is “qualificational”. These sentences do not report on a specific utterance act. The meaning of *be said to* is “off-stage” here and you can safely remove the pattern, so that *said* can be argued to no longer be a matrix verb, but to be part of an auxiliary-like construction that modifies the meaning of the infinitive. (2) and (3) have in common that the NCI is not used for information structural reasons (since it can be left out: *...a flour which gives them..., A market is a place...*), but they differ in that they illustrate two different form-meaning pairings. In (2) the modifying construction has an evidential function, i.e. its writer uses the pattern to indicate that s/he has a *source* for the information s/he is conveying, so that s/he is not the (sole) judge of the factuality of the statement that American ring doughnuts are light, fluffy, and non-greasy. We have called this “the evidential NCI construction”. Other frequent instantiations of the “evidential NCI construction” in Present-day English are *be alleged to, be assumed to, be believed to, be claimed to, be considered to, be deemed to, be estimated to, be expected to, be felt to, be found to, be held to, be known to, be reported to, be seen to, be shown to, be supposed to, be taken to, be thought to* and *be understood to* .

In (3) the modifying construction connects a description with a descriptum. This we have called the “descriptive NCI construction”.

the deontic NCI

4. Pupils are expected to use their Maths to solve problems.
5. You were supposed to do six and you only did four!
6. Standards for exposure to benzene are expected by the UK government to be set in 1993: a level of 3 ppb is under consideration, although according to the World Health Organization there is “no known safe threshold dose”.
7. The mechanism supposed by Miller (1948) to underlie acquired equivalence is that introduced by Hull (1939) with his notion of secondary generalization.
8. The Japanese economy is expected to grow by only 3.8% during fiscal 1991 compared with this year’s 5.2%.
9. Napoleon is supposed to have said “An army marches on its stomach.”

Two of the patterns that can instantiate the evidential NCI construction in English, *be expected to* and *be supposed to*, can carry the additional meaning illustrated in (4) and (5).

In these examples *be expected to* and *be supposed to* instantiate a “deontic NCI construction”. They can be paraphrased with “Pupils should use their Maths to solve problems” and “You should have done six and you only did four”.

Note that the same patterns can also be the realization of a plain passive, as illustrated in (6-7), as well as the evidential NCI construction, (8-9).

the counterfactual NCI

10. The race was supposed to be taking place in blazing sunshine, but the sun refused to come out and there was even some rain.
11. I didn't think much of the first time really. It wasn't how I imagined it. I thought you were supposed to enjoy it, and it was half and half really.

A fifth NCI construction can only be realized by *be supposed to*.

Visconti (2004) terms this the “epistemic” use of *be supposed to*, because it “evokes a possible world, a state of affairs which would be expected to occur but does not”, often in co-texts containing “counterfactual signals” like *but, in fact, in reality, ...*

To our mind, however, “counterfactual” is the operative word here, rather than “epistemic”, because no judgement of the (un)certainly or probability of a proposition (cf. van der Auwera & Plungian 1998) is involved.

the NCI in Dutch

12. En dus werd er een truc bedacht. Iedereen die grond had in een te verkavelen gebied, mocht meestemmen over het doorgaan van de verkaveling ... Kwamen ze niet dan werden ze geacht voor te zijn.

'So a trick was thought up. Everyone who possessed land in an area designated for allocation was allowed to participate in a vote on whether the scheme should go ahead. If they did not show up, they were considered to be in favour of it.'

13. Zijn hoofdstukje over de frenologie - een ... negentiende-eeuwse tak van de medische wetenschap, waarbij uitwendige schedelkenmerken verondersteld werden hoedanigheden van de hersenen te weerspiegelen - is zelfs ronduit hilarisch.

'His chapter on phrenology – a 19th-century branch of medical science according to which the shape of the skull was supposed to reflect properties of the brain – is positively hilarious even.'

In Dutch the NCI is a far less frequent and less productive pattern than in Present-day English. The only patterns occurring today with any frequency are *geacht worden te* ('be considered/supposed to'), *verondersteld worden te* ('be supposed to') and, to a lesser extent, *verwacht worden te* ('be expected to').

Like the English NCI, the Dutch NCI is not simply a passive. Arguably, the examples in (12-13) are plain passives in that the meanings of *achten* and *veronderstellen* are on-stage: these instances report on someone—the organisers of the election in (12), the 19th century practitioners of phrenology in (13)—considering or supposing something to be the case.

Nowadays, Dutch NCI examples most often instantiate a deontic NCI construction, less often an evidential NCI construction and occasionally also a descriptive NCI construction. The counterfactual occurs as well.

deontic

14. Chefs van afdelingen worden geacht excessief of nutteloos surfen te voorkomen.

'Heads of departments are supposed to/should prevent excessive and useless surfing.'

15. Iedereen wordt dan verondersteld met het Klein Gevaarlijk Afval naar de containerparken te gaan.

'Everyone is then supposed to/should then take the Small Toxic Waste to the recycling centre.'

evidential

16. Ze werden populair bij atleten en wielrenners omdat meer rode bloedlichaampjes worden geacht een “zuurstofvoorsprong” te geven.

‘They [EPO hormones] became popular with athletes and cyclists because more red blood cells are thought to give an “oxygen advantage”.’

17. De belangen van personages blijken uit hun handelingen en die roepen bij het publiek bepaalde affectieve disposities op jegens hen: positief (met empathie als gevolg) of negatief (onverschilligheid of anti-empathie als reactie). Ook het uiterlijk van personages wordt verondersteld een rol te spelen in die dispositie, hetgeen nadrukkelijk bevestigd is in experimenteel onderzoek.

‘The interests of characters are obvious from their actions, which evoke certain affective dispositions towards them in the audience: positive ones (resulting in empathy) or negative ones (indifference or anti-empathy as a reaction). Also the outward appearance of characters is assumed to play a part in this disposition, which has been confirmed by experimental research.’

descriptive

18. Kan de rechterlijke macht, nu in ons constitutioneel staatsbestel alle machten van de natie uitgaan, geacht worden de natie te vertegenwoordigen?

'Since in our constitutional system all powers are vested in the nation, can the judicial power be supposed to represent the nation?'

19. [...] ook de programmering van de radio- en televisieprogramma's mag verondersteld worden een breed publiek aan te spreken.

'... also the scheduling of the radio and television broadcasts may be supposed to appeal to a large audience.'

counterfactual

20. [Het tv-programma bestaat uit] studiotalks met 'Prominenten' van het vierde garnituur op de bank, die geacht worden interessante dingen over hun seksleven te vertellen aan een zekere Verona Feldbusch.

'The television show consists of studio talks with fourth-class 'celebrities', who are supposed to tell interesting things about their sex lives to one Verona Feldbusch.' (but it is clear from the context that the writer finds these sex live stories uninteresting)

21. De aanklager werd verondersteld de kinderen te verdedigen.

'The prosecutor was supposed to defend the children.' (but it is clear from the context that he did not)

origin of (ACI and) NCI

- native to Germanic languages or of Latin origin?
- two waves of Latin influence:
 - medieval (pre-1500): religious writings
 - plain passive NCI
 - 16th-17th-century: Classical Roman writings
 - evidential NCI (Noël 2008, Coleman & Noël 2009, 2012)

In neither Dutch nor English linguistics the question of whether the NCI is native to Dutch and English or whether it was introduced into these languages as a result of contact with Latin is completely settled yet.

It is undeniable, however, that there have been two waves of Latin influence, a medieval (pre-1500) influence from religious writings, and a 16th-17th-century wave of influence from Classical Roman writing (Noël 2008, Coleman & Noël 2012).

We have argued in previous work that the presence of the evidential NCI in both English and Dutch is the result of this second wave of Latin influence.

We have already said that the evidential NCI developed into a very productive, schematic construction in English. In Dutch we only have the three patterns just illustrated, but more types of the pattern used to be quite common at one time, the one with the highest frequency being *gezegd worden te*, the Dutch cognate of *be said to*.

Noël, Dirk and Coleman, Timothy. 2009. The nominative and infinitive in English and Dutch: An exercise in contrastive diachronic construction grammar. *Languages in Contrast* 9: 144-181.

Table 4. Frequency of the NCI per million words in four sub-corpora of a diachronic corpus of Dutch literary and academic texts (patterns sorted alphabetically).

verb in pattern	1640-1710	1710-1780	1780-1850	1850-1920
achten	0	0.40	1.90	2.56
bekennen	0	0	0	0
bevinden	0	1.62	2.29	0.57
denken	0	0	0	0
erkennen	0	0	0.38	0
geloven	0	0	0	0
houden	0	0.40	1.14	0.28
menen	0	0	0	0
oordelen	0.84	2.02	0.38	0
rekenen	0	2.02	2.29	0.28
verklaren	0	0	1.14	0
vernemen	0	0	0	0
(ver)onderstellen	0.84	3.24	0.38	1.42
verstaan	0.84	0	0	0
verwachten	0	0	0	0
wanen	0	0	0	0
zeggen	1.68	8.09	4.57	2.56
TOTAL	4.21	17.8	14.47	7.67

This shown in this table taken from a previous paper. It displays the frequency in a historical corpus of verbs said in the literature to still occur occasionally in ACI/NCI patterns today and/or to have been most frequent in these patterns in the 17th century + *verwachten*

Notice the frequency peak in the 18th century.

Gezegd worden te is responsible for almost half of the total in that period and it indeed looked like becoming entrenched as an evidential expression. Two examples on the next slide.

Colleman, Timothy and Noël, Dirk. 2012. The Dutch evidential NCI: A case of constructional attrition. *Journal of Historical Pragmatics* 13: 1-28.

22. Zelf een grondig beoefenaar der wetenschap, beminnaar aller schoone kunst, verzamelde hij alle dichters en geleerden aan zijn glansrijk hof, die in zijn eigen of in naburige landen zich beroemd hadden gemaakt. De spraakkunst van Panini of de zoogenaamde “grootte spraakkunst”, de *Mahabhashya*, wordt gezegd door hem in Kasjmir te zijn ingevoerd. (*De Gids* 1867)

‘A very thorough practitioner of science himself, and a lover of fine arts, he gathered all poets and men of learning at his magnificent court that had become famous in their own or in neighbouring countries. Panini’s grammar, or the so-called “extensive grammar”, the *Mahabhashya*, is said to have been introduced by him in Kashmir.’

23. En de brieven? Ergens in de Amsterdamsche Universiteitsbibliotheek kan men een verzegelden trommel vinden, die gezegd wordt de kostbare documenten te bevatten. (*De Gids* 1899)

‘And the letters? Somewhere in the Amsterdam University Library one can find a sealed box which is said to contain the valuable documents.’

The entrenchment of *gezegd worden te* as an evidential expression did not carry through, however, and the frequency of the pattern went downhill fast in the 19th century and early 20th century, and has completely disappeared now.

We attributed this in this 2012 paper to competition in Dutch from other Dutch evidential constructions – a kind of competition which the English evidential NCI did not face.

origin of (ACI and) NCI

- native to Germanic languages or of Latin origin?
- two waves of Latin influence:
 - medieval (pre-1500): religious writings
 - plain passive NCI
 - 16th-17th-century: Classical Roman writings
 - evidential NCI (Noël 2008, Coleman & Noël 2009, 2012)
- the English deontic NCI is a grammaticalization of volitive *suppose* and *expect* (Noël & van der Auwera 2009)
the Dutch deontic NCI is a result of polysemy copying of English *be supposed to* and *be expected to* (Coleman & Noël 2014)

Where does the deontic NCI come from?


In English this is not a result of language contact.

We have argued in Coleman & Noël (2014), however, that in Dutch it is a result of contact with English: at a time when *geacht worden te* and *verondersteld worden te* were used as evidential constructions, speakers of Dutch who had contact with English connected these two patterns with the English pattern *be supposed to* and they also started using the Dutch patterns with the extra meaning the English pattern had, i.e. a deontic meaning.

We said in this 2014 paper that this influence from English that led to the deontic NCI in Dutch, not only accounts for why we have *geacht worden* and *verondersteld worden* in Dutch today, it also explains why these can still be used as evidentials today, whereas *gezegd worden* cannot anymore. Evidential *geacht worden* and *verondersteld worden* could continue by virtue of the deontic use of the patterns, while *gezegd worden*, which obviously did not acquire a deontic use, disappeared as an evidential as well.

However, this is an explanation that works better for *verondersteld worden* than for *geacht worden*, because *veronderstellen*, like *suppose*, means 'to believe or assume as true' (an epistemic judgement), while *achten* means 'to consider/deem to be' (an opinion).

In other words, we need a more extensive account for the presence of *geacht worden te* in Dutch, especially because it is considerably more frequent than *verondersteld worden*. What explains this higher frequency?



KBKranten Ngramviewer

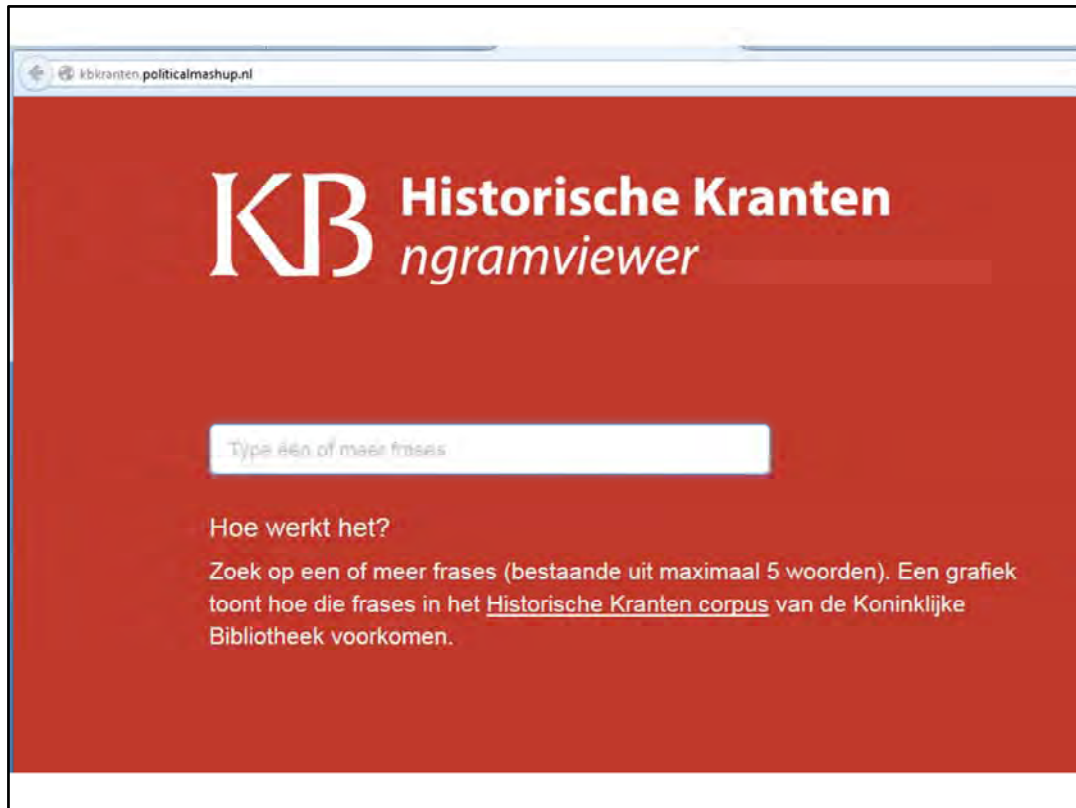
The KBKranten Ngramviewer is an application similar to the [PoliticalMashup Ngramviewer](#). It visualizes the term frequency of a phrase in Dutch newspapers between 1840 and 1995 as a percentage of the total amount of phrases occurring in a single year.

The ngramviewer searches in the [Historische Kranten](#) of the Dutch [Royal Library](#), a corpus of digitized Dutch newspapers. The corpus contains approximately [84 million articles](#), and after analysis, approximately 250 million unique phrases.

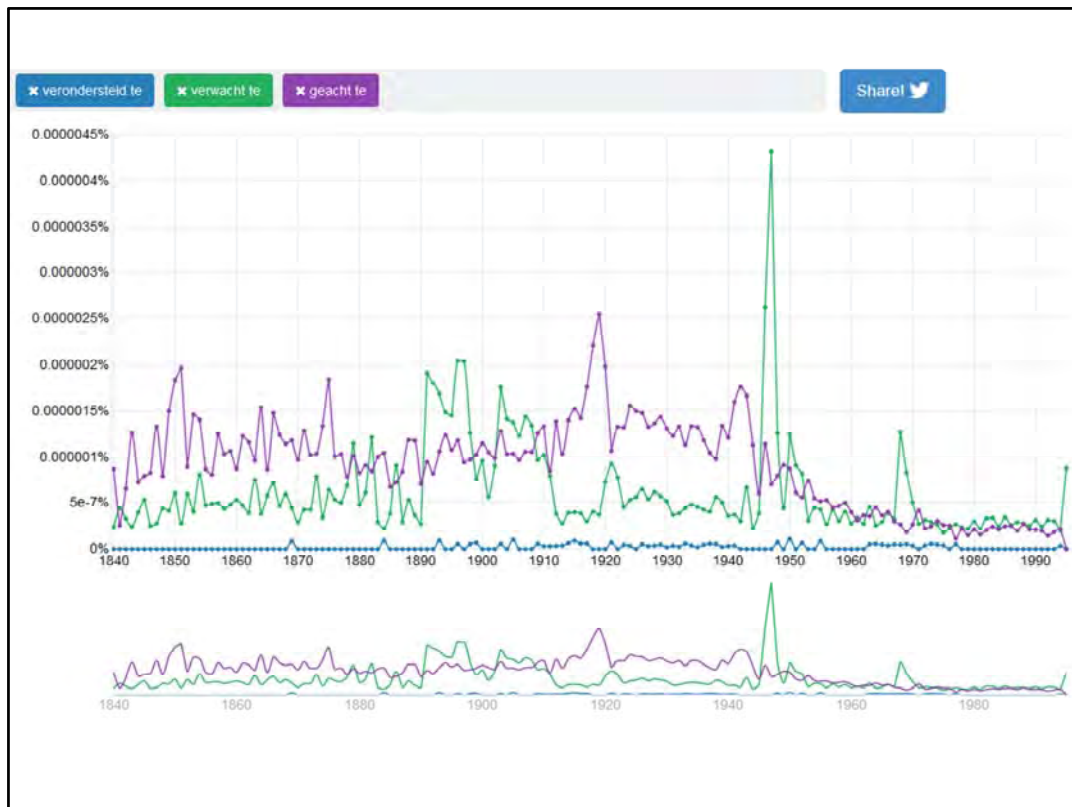
<http://kbkranten.politicalmashup.nl>

dispectu.com

For this paper we thought we would try and find this explanation using a resource we recently found out about, an online ngram query tool that accesses the digitized newspaper archive of the Dutch Royal Library, containing the full text of a collection of Dutch-language newspapers published between 1840 and 1995.



The ngrams we searched for are two-grams: *geacht te*, *verondersteld te* and *verwacht te*, the three NCI patterns that still occur in Dutch today.



This search produces a graph which visualizes the relative frequencies of these two-grams, relative to all other two-grams present in the texts that were searched.

For our purposes this visualization is not very useful, and in fact rather misleading, because what is displayed here are the relative frequencies of unfiltered query hits. And these two-grams do not always instantiate NCI patterns. This is especially the case for *verwacht te*, so we should not take the green line very seriously.

What is confirmed by the filtered data, however, is that *geacht te* is the most frequent NCI pattern (the violet line) and that *verondersteld te* is much less frequent (the blue line).

When you click on any of the dots in the coloured lines you get to a list of texts containing the query hits and you can then manually filter the hits by looking for them in each text and determine whether it is an NCI or not. This is a very slow and cumbersome process, because this is not a corpus-linguistic tool and you cannot quickly export the query results as a set of concordance lines. So we had to make an initial selection of data to look at.

Obviously the blue line helped in making this selection: it shows that there are years in which *verondersteld te* hardly occurred at all in the texts searched, so apart from the very first year covered (1840) we only looked at years in which there were more than five hits for *verondersteld te* → 1869 and 1884 → 15 years between these, and we tried to stick to this interval as closely as possible.

newspaper volumes examined

- 1840, 1869, 1884, 1899, 1914, 1929, 1948, 1963, 1977, 1994

So what did a qualitative examination of the results reveal in terms of why we still have these three NCI patterns in Dutch today, and how they came to be deontic expressions?

Let's start with the most frequent NCI pattern, *geacht worden te*.

plain passive *geacht worden te*

24. De generaal-majoor Klerck is eervol ontheven van het tot dus verre door hem tijdelijk waargenomen oppercommandement in de vesting Breda, welk oppercommandement tevens zal worden geacht te zijn opgeheven. (1840)
'Major-general Klerck has been honourably discharged from his interim supreme command of the garrison of Breda, and this supreme command will also be considered to have been abolished.'
25. De derde afdeeling bepaalt zich bij een paar aanmerkingen, zonder daarom geacht te willen worden het overige anders dan voor kennisgeving te hebben aangenomen. (1840)
'The third branch confines itself to a few remarks, without wanting to be considered to have accepted everything else as more than merely noted.'
26. Bij staking der stemmen wordt het voorstel geacht te zijn verworpen. (1869)
'In the event of an equality of votes the proposal is considered to have been rejected.'

Initially, in the earliest of the volumes looked at, only plain passive and descriptive instances occur, which can be translated with 'to be considered to be'.

The context is often one of rules and laws, so that 'statutorily', or 'officially', can be added to the paraphrase: 'to be officially considered to be'.

We thought this typical statutory context could be the key to why we have *geacht worden te* still in Dutch while other NCI patterns have disappeared. Our guess is that the influence of French on Dutch legal and administrative language may have been at play here.

To this day, Dutch legal language very much bears the stamp of French, and the cause is obvious: the French civil code, the so-called Code Napoléon. At the start of the 19th century the Netherlands were French and the Dutch Civil Code introduced after the French had gone was very much based on this Napoleonic Code.

The present Dutch Civil Code contains many instances of the kind of *geacht worden te* illustrated on this slide. The equivalent of it in the Code Napoléon is the expression *être censé* + adjective/past participle/infinitive. In a juridical context this means 'to be considered by law to be the case'/'to be deemed by the law to be'.

être censé

27. L'héritier qui renonce est censé n'avoir jamais été héritier.

'The heir who renounces a succession is deemed never to have been heir.'

28. Le fossé est censé appartenir exclusivement à celui du côté duquel le rejet se trouve.

'The drain is deemed to belong exclusively to him on whose side the drainpipe is located.'

These are two examples from the Code Napoléon.

This French pattern came to be used with dynamic infinitives and later grammaticalized into a deontic modal expression.

Did the same happen in Dutch, i.e. did the plain passive “juridical” use of *geacht* simply grammaticalize into a deontic expression, without foreign influence?

Or is there evidence in the data from the KB historical newspaper archive which supports our polysemy copying hypothesis? We'll see in a minute.

plain passive *geacht worden te*

29. “Partijzucht” zoo schrijft de heer van Tets “heeft te weeg gebragt, dat de liberale rigting wordt geacht te staan of te vallen met hem, die het hoofd der liberale partij wordt genoemd.” (1869)
“Factiousness,” writes Mr. Tets, “has brought about that liberalism is considered to stand or fall with the one who is called the head of the liberal party.”
30. Dat voorstel werd door 's Konings Commissaris en ook door leden der Staten geacht te treden buiten den kring hunner bevoegdheid, maar door andere leden met kracht verdedigd. (1869)
‘That proposal was considered to be outside their competence by the Governor and the Council members, but forcefully defended by others.’

Let’s first return to *geacht worden te*. Before turning to evidential and deontic examples, we will mention for the sake of completion that in addition to the legalistic examples of the plain passive use of *geacht worden te* which we have already illustrated, there are also examples in which it signals an opinion of an individual, or certain individuals.

evidential *geacht worden te*

31. De oorzaak van den brand wordt geacht te bestaan in het kookken van lijm in het schilders-atelier op de derde verdieping. (1884)

'The cause of the fire is believed to be the boiling of glue in the painter studio on the third floor.'

32. Er komt een snellere verbinding tussen Duitschland en het Zuid-Oosten van Europa. Dit wordt geacht te zijn van groot belang voor den Duitschen handel en de Deutsche industrie. (1899)

'There is going to be a faster connection between Germany and the South-East of Europe. This is thought to be of great importance for German trade and industry.'

The first evidential examples in the data set we have considered appear near the end of the 19th century. These look like “indigenous” examples: there is nothing to suggest contact influence.

At that time, the end of the 19th century, *gezegd worden te* ('be said to') was still around as well, so these evidential examples do not need a special explanation. They are instances of the evidential construction that had been part of Dutch grammar for a few centuries already.

HET BESTE HOESTMIDDEL.

Chamberlain's hoestmiddel heeft thans het grootste debiet in de wereld, omdat het volkomen de uitwerking heeft, welke een hoestmiddel wordt geacht te weeg te brengen. Het geneest hoest en verkoudheid dadelijk en volkomen.

Te koop bij alle handelaren in medicijnen. 11

'THE BEST COUGH REMEDY. Chamberlain's cough remedy is currently the most widely sold one in the world, because it completely has the effect that a cough remedy is supposed to bring about. It cures a cough and a cold immediately and completely.'

The first undeniably deontic example, however, is found in an advertisement for an American product dating from 1914 and one could reasonably suspect influence from English here.

The next deontic examples of *geacht worden te* in our data occur only fifty years later, however, and they do not show obvious influence from English.

deontic *geacht worden te*

34. “Stelt u zich eens voor dat autoriteiten het moeten toestaan dat een man en een vrouw bij elkaar komen. Wat zijn dat voor autoriteiten? En waar halen ze hun autoriteit vandaan?” Zulke vragen stelt men zich in het gespleten Berlijn en op zulke vragen wordt men geacht te antwoorden. (1963)

‘Imagine that authorities have to give permission for a man and a woman to get together. What kind of authorities are these? And where do they get their authority from?’ These are the kind of questions people ask themselves in torn Berlin and one is supposed to answer such questions.’

Only in the 1977 data do deontic examples become more frequent than the other uses.

So *geacht worden te* only becomes entrenched as a deontic construction well into the 20th century, and apart from that single advertisement example there is no indication of influence from English in the KB data we have looked at so far.

Things look somewhat different in the case of *verondersteld worden te*, however.

plain passive *verondersteld worden te*

35. Ten betooge hiervan zij het adressant vergund bescheidenlijk op te merken: dat de Kommissie zeker moet worden verondersteld te hebben gekend de bepalingen van art. 11 der Wet. (1869)

'To show this the petitioner shall be allowed to note modestly that the Commission must certainly be supposed to have known the provisions of art. 11 of the Law.'

36. Ook van den wagenbestuurder te Wolbeek, van wien aanvankelijk de toestand ernstig werd verondersteld te zijn, bleek later, dat hij er tamelijk goed was afgekomen. (1914)

'Also the driver in Wolbeek, whose condition was first supposed to be critical, turned out later to have escaped relatively unharmed.'

The earliest examples in the KB data we looked at are plain passive ones. These are clearly “indigenous” examples.

The earliest, late 19th-century, evidential examples, however, do reveal possible influence from English in the functional development of this pattern, in that they all occur either in Dutch newspapers published in the US, or in texts that go back to an English-language source.

evidential *verondersteld worden te*

37. Kapt Lapsley's huis woei om en zijne schoonzuster werd onder de puinhoopen begraven en wordt verondersteld te zijn omgekomen. (1884; *De Grondwet* ['The Constitution'], published in Michigan)

'Capt Lapsley's house blew over and his sister-in-law was buried under the rubble and is supposed to have been killed.'

38. Daar die wolk zich terzelfder tijd noord- en zuidwaarts uitbreidt en Krakatau bijna onder de linie gelegen is, werd de richting in het noordelijk halfrond een naar het noordwesten en in het zuidelijk halfrond naar het zuidwesten, ongeveer als de beide beenen der letter V, waarvan de punt in Krakatau wordt verondersteld te liggen. (1884, *Algemeen handelsblad*, text starts from article in *Nature*)

'As this cloud expands northwards and southwards at the same time and Krakatau is nearly under the equator, the direction in the northern hemisphere was one to the north-west, and in the southern hemisphere to the southwest, a bit like the two legs of the letter V, whose angle is supposed to lie in Krakatau.'

Here are just two examples, one from a Dutch-language newspaper published in the US, and one from a newspaper published in the Netherlands but from a text that obviously uses the journal *Nature* as its main source.

Examples like these show that English is likely to have been a factor in the survival of *verondersteld worden te* as an evidential pattern.

The first apparently "authentic" evidential example was found in the 1929 data.

Chamberlain Medicine Co.

Het beste Hoestmiddel.

Chamberlain's Hoestmiddel heeft den grootsten verkoop over de geheele wereld tegenwoordig; omdat het precies doet wat van een hoestmiddel wordt **verondersteld te moeten doen**.

Het stopt het hoesten, geneest gevatte koude spoedig en met groot succes.

Verkrijgbaar à 75 ct. p. fl. en f 7.50 p. doz.
bij alle apothekers en drogisten en bij

José Rodrigues
Agent.

Turning to deontic *verondersteld worden te* it is interesting that a different version of the cough remedy ad from 1914 suggests that *verondersteld* was not yet deontic at the time.

Notice the infinitive of the modal *moeten* ('must') after *wordt verondersteld te*. For this translator of what is very likely to be an originally English text *verondersteld worden te* on its own obviously did not yet have deontic force.

In the case of *veronderstellen*, though, more deontic, and also counterfactual examples, occur earlier, than in the case of *achten*, in spite of it being a less frequent pattern.

Most of these display an obvious English influence, only some do not.

deontic/counterfactual *verondersteld*

40. Het [orgel] stond opgesteld achter groen, en als de band niet speelde of als er niet gehost werd, achter het looporkest, met den grooten, goedigen, glimmenden trommelslager voorop (die op geen Haagsch bal-masqué ontbreekt), dan werd het orgel verondersteld te spelen. Het deed dit dan ook wel, maar [...] (1929)

'The organ was placed behind some greenery, and when the band was not playing, or when people were not jigging about behind the band with the big, good-natured, shining drummer in front (who cannot be absent from any bal masqué in The Hague), the organ was supposed to play. It did so in that case, but...'

41. Om een of andere onbekende reden zijn veel menschen, die verstandig worden verondersteld te zijn, bang voor denkbeelden. (1929, from a translation of a text by Upton Sinclair)

'For some reason many people who are supposed to be sensible are afraid of ideas.'

The first deontic example in the KB data we looked at dates from 1929 and looks genuinely Dutch. What is important for our polysemy copying hypothesis, however, is that it postdates the earliest evidential examples, and that a relevant English model was established for those.

Many of the later examples occur in translations from English, however, which points to the role of English in the entrenchment of deontic *verondersteld worden te* as well.

The first example of a counterfactual NCI in the data occurs in a translation from English. (41)

deontic *verondersteld worden te*

42. Wel, Rona, we worden verondersteld te zorgen, dat het bureau van de chef gesloten wordt. (1948)
'Well, Rona, we are supposed to make sure that the boss's office is locked.'
43. Je wordt niet verondersteld te lachen, wanneer je door je toekomstige echtgenoot gekust wordt. (1963)
'You are not supposed to laugh when you are kissed by your future husband.'

Here's two more deontic examples. Both are from translations of English serial novels.

We are including these additional examples from 1948 and 1963 to kind of iconically convey that the less frequent pattern *verondersteld worden te* appears to have been more frequently used deontically before the more frequent pattern, *geacht worden te*, got going as a deontic construction. It could be that the deontic use of *verondersteld worden te*, the pattern which is a more straightforward translation of *be supposed to*, boosted the deontic potential of *geacht worden te*.

In other words, it was perhaps first and foremost *verondersteld worden te* which copied the polysemy of *be supposed to*, and subsequently *geacht worden te* followed suit, or rather, the example of *verondersteld worden te* may have unleashed the deontic potential of *geacht worden te*.

Naturally, this needs more empirical underpinning.

evidential *verwacht worden te*

44. Te Parijs zijn door bet Fransche Gouvernement groote voorbereidselen gemaakt om de ongeregeldheden, verwacht te zullen plaats bebben op den 26sten October, het hoofd te kunnen bieden. (1869; Sumatra-courant, section "Per telegraaph" ['by telegraph'], "Uit de ['from the'] Straits Times Extra")
'In Paris the French government has made big preparations to counter the disturbances expected to take place on 26 October.'

45. Een goede kijk op de economische ontwikkelingen geeft de index van de nationale associatie van inkoopmanagers. Deze komt morgen uit en wordt verwacht te zijn gestegen naar 59 procent. (1994, *De Telegraaf*)
'The index of the National Association of Purchasing Managers offers a good perspective on economic developments. It will appear tomorrow and is expected to have risen to 59 percent.'

Finally, let's turn to *verwacht worden te*.

Examples of *verwacht worden te* are even scarcer than those of *verondersteld worden te*, and they all, without exception, occur either in Dutch language newspapers published in the US, or in texts which are about things British or American and whose information is likely to be drawn from English language sources.

This is true of both evidential and deontic *verwacht worden te*, and it is also true of the later examples.

45 is about the New York Stock Exchange.

deontic *verwacht worden te*

45. Een vereeniging die in haar belofte God de eerste plaats geeft en die voorschrijft dat haar leden worden verwacht te behooren tot een godsdienstig genootschap en de verplichtingen ervan moeten nakomen, [...], is niet neutraal te noemen. (1929; *De Tijd*, text about *Scouting*)

'An organization which in its oath gives primacy to God and which prescribes that its members are expected to belong to a religious society and to abide by its rules, [...], cannot be called neutral.'

46. Zoo werd Dr. Maurice Heusinkveld, van Greenleafon afkomstig, gevraagd om het werk te aanvaarden, ofschoon hij slechts 6 maanden taal studie had gehad instee van de twee jaren dat een nieuwe zendeling de taal wordt verwacht te studeeren. (1948; *De Volksvriend*, published in Iowa)

'Thus Dr. Maurice Heusinkveld, originating from Greenleafon, was asked to accept the job, though he had had only 6 months of language instruction instead of the two years a new missionary is expected to study the language.'

concluding hypotheses

- As the influence of Latin on Dutch tapered from the 18th century, so did the frequency of the Dutch NCI.
- Only three patterns left in Dutch: *geacht worden te*, *verondersteld worden te* and *verwacht worden te*.
- Influence from French ensured the survival of *geacht worden te*.
- Influence from English (*be supposed to*) ensured the survival of *verondersteld worden te* as an evidential expression.
- *Verondersteld worden te* copied the polysemy of *be supposed to* and became deontic.
- *Geacht worden te* copied the polysemy of *verondersteld worden te* and became deontic.
- *Verwacht worden te* is a loan translation of English *be expected to*.

When, in the 18th century, even educated writers started to have less contact with Latin, the NCI pattern started to wither away in Dutch, even though before then a Dutch evidential NCI construction seemed to be taking off.

Only three patterns remain in Present-day Dutch, the most frequent one being *geacht worden te*. Less frequent is *verondersteld worden te*, and even less frequent *verwacht worden te*.

How come we still have these three patterns in Dutch today, while the Dutch cognate of *be said to*, *gezegd worden te*, has completely disappeared?

We think this is first of all the result of the influence from French in the 19th century, specifically French legal texts, which boosted the frequency of plain passive *geacht worden te*, the translational equivalent of *être censé*. This happened at a time when the Dutch evidential was still more productive than it is now and supported by plain passive *geacht worden te* evidential *geacht worden te* kept being a smouldering presence.

Plain passive, juridical, *geacht worden te* has the potential of developing into a deontic expression. *Être censé* did so in French, but probably at a time when French no longer exerted the same kind of influence on Dutch as it did in the first half of the 19th century. Did plain passive *geacht worden te* grammaticalize into a deontic expression in a similar way, on its own steam?

Probably not, because the less frequent pattern *verondersteld worden te*, seems to have been used more often in a deontic way before *geacht worden te* took hold as a deontic expression.

Evidential *verondersteld worden te* seems to have been kept alive through the influence of English, as a translational equivalent of *be supposed to*. When *be supposed to* came to be used more and more as a deontic expression, *verondersteld worden te* copied its polysemy.

Geacht worden te then copied the polysemy of *verondersteld worden te*.

Verwacht worden te was not around in Dutch until the late 19th century. Its presence in Dutch is entirely due to English influence.

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